

SIRIUS SAFETY RELAY STANDARD SERIES DEVICE RELAY
 ENABLING CIRCUITS 3 NO CONTACTS + RELAY SIGNALING
 CIRCUIT 1 NC CONTACT US = 24 V AC/DC SCREW TERMINAL



Figure similar

General technical data:	
product brand name	SIRIUS
Product designation	safety relays
Design of the product	For autonomous safety applications
Protection class IP of the enclosure	IP20
Protection against electrical shock	finger-safe
Insulation voltage Rated value	300 V
Ambient temperature	
• during storage	-40 ... +80 °C
• during operation	-25 ... +60 °C
Air pressure acc. to SN 31205	90 ... 106 kPa
Relative humidity during operation	10 ... 95 %
Installation altitude at height above sea level maximum	2 000 m
Vibration resistance acc. to IEC 60068-2-6	5 ... 500 Hz: 0,75 mm
Shock resistance	10g / 11 ms
Surge voltage resistance Rated value	4 000 V
EMC emitted interference	IEC 60947-5-1, IEC 61000

Installation environment regarding EMC	This product is suitable for Class B environments and can also be used in domestic environments.
Overvoltage category	Installation category III
Degree of pollution	3
Number of sensor inputs 1-channel or 2-channel	1
Design of the cascading	none
Type of the safety-related wiring of the inputs	single-channel and two-channel
Product property cross-circuit-proof	Yes
Safety Integrity Level (SIL) • acc. to IEC 61508	SIL3
Performance level (PL) • acc. to EN ISO 13849-1	e
Category acc. to EN ISO 13849-1	4
Safe failure fraction (SFF)	99 %
PFHD with high demand rate acc. to EN 62061	0.0000000017 1/h
Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508	0.000001 1/y
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Hardware fault tolerance acc. to IEC 61508	1
Safety device type acc. to IEC 61508-2	Type A
Number of outputs as contact-affected switching element • as NC contact — for signaling function instantaneous contact — for signaling function delayed switching — safety-related instantaneous contact — safety-related delayed switching • as NO contact — for signaling function instantaneous contact — for signaling function delayed switching — safety-related instantaneous contact	1 0 0 0 0 0 0 3
Number of outputs as contact-less semiconductor switching element • safety-related — delayed switching — instantaneous contact • for signaling function instantaneous contact	0 0 0
Stop category acc. to DIN EN 60204-1	0

General technical data:

Design of input

<ul style="list-style-type: none"> • cascading input/functional switching 	No
<ul style="list-style-type: none"> • feedback input 	Yes
<ul style="list-style-type: none"> • Start input 	Yes
Type of electrical connection Plug-in socket	No
Operating frequency maximum	360 1/h
Switching capacity current	
<ul style="list-style-type: none"> • of the NO contacts of the relay outputs <ul style="list-style-type: none"> — at DC-13 <ul style="list-style-type: none"> — at 24 V — at 115 V — at 230 V — at AC-15 <ul style="list-style-type: none"> — at 115 V — at 230 V 	5 A 0.2 A 0.1 A 5 A 5 A
<ul style="list-style-type: none"> • of the NC contacts of the relay outputs <ul style="list-style-type: none"> — at DC-13 <ul style="list-style-type: none"> — at 24 V — at 115 V — at 230 V — at AC-15 <ul style="list-style-type: none"> — at 115 V — at 230 V 	1 A 0.2 A 0.1 A 1.5 A 1.5 A
Thermal current of the switching element with contacts maximum	5 A
Operating current at 17 V minimum	5 mA
Mechanical service life (switching cycles) typical	10 000 000
Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A
Design of the fuse link for short circuit protection of the NC contacts of the relay outputs required	Diazed or Neozed fuses, operating class gL/gG: 6 A or MCB type A: 2 A or MCB type B: 2 A or MCB type C: 1 A
Cable length	
<ul style="list-style-type: none"> • for total of all sensor circuits with Cu 1.5 mm² and 150 nF/km maximum 	2 000 m
Make time with automatic start	
<ul style="list-style-type: none"> • typical • at DC maximum • at AC maximum 	200 ms 320 ms 320 ms
Make time with automatic start after power failure	
<ul style="list-style-type: none"> • typical • maximum 	200 ms 320 ms
Make time with monitored start	
<ul style="list-style-type: none"> • maximum 	20 ms

• typical	15 ms
Backslide delay time after opening of the safety circuits typical	10 ms
Backslide delay time in the event of power failure	
• typical	65 ms
• maximum	75 ms
Recovery time after opening of the safety circuits typical	10 ms
Recovery time after power failure typical	0.09 s
Pulse duration	
• of the sensor input minimum	150 ms
• of the ON pushbutton input minimum	0.015 s

Control circuit/ Control:

Type of voltage of the control supply voltage	AC/DC
Control supply voltage frequency	
• 1 Rated value	50 Hz
• 2 Rated value	60 Hz
Control supply voltage	
• at DC	
— Rated value	24 V
• at AC	
— at 50 Hz	
— Rated value	24 V
— at 60 Hz	
— Rated value	24 V
Operating range factor control supply voltage rated value of the magnet coil	
• at AC	
— at 50 Hz	0.85 ... 1.1
— at 60 Hz	0.85 ... 1.1
• at DC	0.85 ... 1.2
Active power loss typical	2 W

Installation/ mounting/ dimensions:

mounting position	any
Required spacing for grounded parts at the side	5 mm
Required spacing with side-by-side mounting at the side	0 mm
Mounting type	screw and snap-on mounting
Width	22.5 mm
Height	100 mm
Depth	121.6 mm






Connections/ Terminals:

Type of electrical connection	screw-type terminals
Type of connectable conductor cross-section	1x (0.5 ... 2.5 mm ²), 2x (1.0 ... 1.5 mm ²)
<ul style="list-style-type: none"> • solid • finely stranded — with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
Type of connectable conductor cross-section for AWG conductors	
<ul style="list-style-type: none"> • solid • stranded 	1x (20 ... 14), 2x (18 ... 16)
	1x (20 ... 16), 2x (20 ... 16)

Product Function:

Product function parameterizable	Sensor floating / sensor non-floating, monitored start / autostart
Suitability for operation Device connector 3ZY12	No
Suitability for interaction press control	No
Suitability for use	
<ul style="list-style-type: none"> • safety switch • Monitoring of floating sensors • Monitoring of non-floating sensors • magnetically operated switch monitoring • safety-related circuits 	Yes Yes Yes Yes Yes

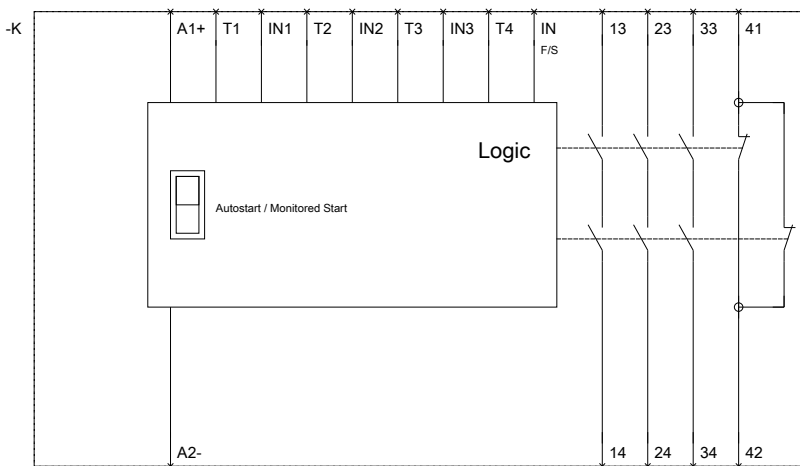
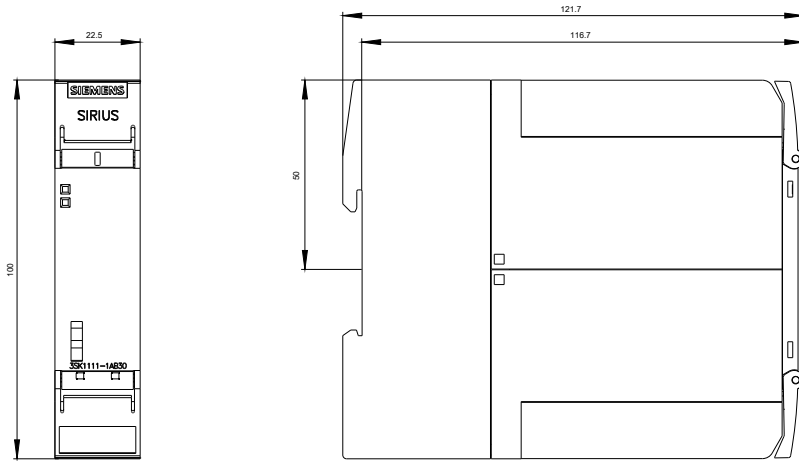
Certificates/ approvals:

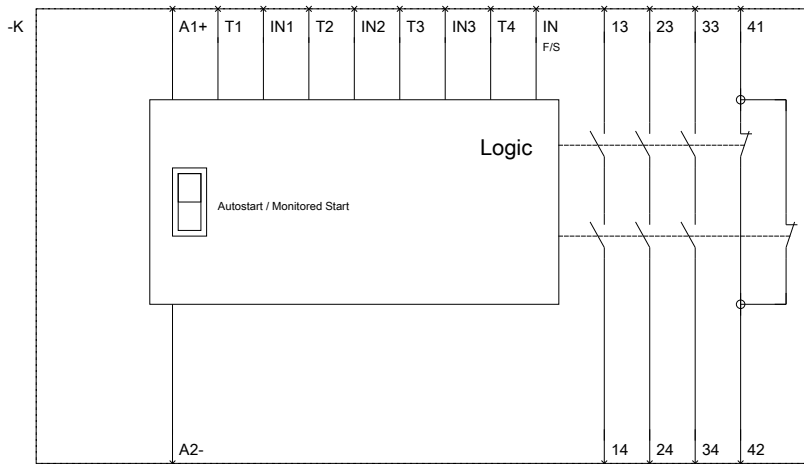
General Product Approval	EMC	Functional Safety/Safety of Machinery	Declaration of Conformity
 CCC	 C-TICK	Baumusterbescheinigung	 EG-Konf.
 CSA			
 UL			

Test Certificates	other
Typprüfbescheinigung/Werkszeugnis	Bestätigungen

Further information

- Information- and Downloadcenter (Catalogs, Brochures,...)**
<http://www.siemens.com/industrial-controls/catalogs>
- Industry Mall (Online ordering system)**
<http://www.siemens.com/industrymall>
- Cax online generator**
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK11111AB30>





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